DOCUMENT RESUME

ED 338 559 SP 033 133

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TITLE Beyond Constructivism: Toward a Dialectical Model of the Problematics of Teacher Socialization.
PUB DATE Apr 91
NOTE 39p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Context Effect; Early Childhood Education; *Epistemology; Higher Education; *Learning Theories; *Piagetian Theory; Power Structure; Teacher Education
IDENTIFIERS *Constructivism; Learning Environment; National Association Educ of Young Children; *Teacher Socialization

ABSTRACT

This paper presents a critical analysis of the forms of constructivism that owe their origin either directly or indirectly to Piaget's theory. The paper is organized into three sections. The first provides a brief synopsis of the structuralist assumptions underlying Piagetian theory and then demonstrates the ways in which these assumptions underlie other constructivist educational approaches. The second section of the paper criticizes the constructivist position especially as found in a position statement of the National Association for the Education of Young Children (1988) on what constitutes developmentally appropriate education for children ages 5-8. The critique argues that many of the epistemological assumptions underlying Piagetian constructivism are extremely problematic and impede the possibilities for developing a learner-centered pedagogy. This is so because the subjectivity of individual learners is ignored; the political, social, cultural, historical, and economic contexts in which school learning takes place remain unacknowledged; the context-specificity of cognition is not addressed; and the notion of student-centered pedagogy is presented without any attempt to take into account the disparities in power relations that necessarily exist between teachers and students in school settings. The final section outlines an alternative theoretical foundation for school learning, one that takes seriously issues of discourse, power, dialogue, context, and subjectivity. (Author/LL)

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Beyond constructivism: Toward a dialectical model of the problematics of teacher socialization

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Paper presented as part of the Symposium The emerging role of constructivism in changes in teachers' beliefs, V. Richardson, Chair, at the Annual Meeting of the American Educational Research Association, Chicago, April 4-7, 1991.

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Abstract

In this paper the author presents a critical analysis of the many forms of constructivism that owe their origin either directly or indirectly to Piaget's theory.The paper begins with a brief synopsis of the structuralist assumptions underlying Piagetian theory and then demonstrates how these same assumptions underlie the constructivist educational approaches advocated by Donaldson, Duckworth, Fosnot, and Sigel. In the second part of the paper a critique of the constructivist position is presented. In this critique the author argues that many of the epistemological assumptions underlying Piagetian constructivism are extremely problematic and impede the possibilities for developing an emancipatory, learner-centered pedagogy. The author argues that this is so because the subjectivity of individual learners is ignored; the political, social, cultural, historical and economic contexts in which school learning takes place remain unacknowledged; the context-specificity of cognition is not addressed; and the notion of student-centered pedagogy is presented without any attempt to take into account the disparities in power relations that necessarily exist between teachers and students in school settings. In the concluding part of the paper the author begins to sketch the outlines of an alternative theoretical foundation for school learning, one that takes issues of discourse, power, dialogue, context and subjectivity seriously.

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Contrasted with the image of the passive learner that is characteristic of didactic education, the notion of the active learner embodied in constructivism has a strong appeal. As Walkerdine (1984) notes, the polarization of passive remembering and active learning has long served as the foundation for progressive and child-centered approaches to pedagogy. The picture on the cover of Margaret Donaldson's Children's minds (1978) serves as a metaphor for both the power and the beguiling simplicity of constructivism. The picture [Fig. 1] shows a young girl manipulating two pieces of wood presumably in the process of constructing her own understanding of some phenomenon. The power of the image lies in the contrast between the passive, powerless learner in the traditional approach, and this image of an active, constructive knower, empowered to take charge of his or her own learning. Presented in this manner, constructivism makes a strong appeal to our commonsense understanding of how learning ought to be. Constructivism has been invoked recently as the rationale not only for progressive pedagogy, but also as the basis for progressive reforms in teacher education (e.g., Fosnot, 1989).

But what does it mean to say that "learners construct their understanding"? How do learners come to know, and does constructivism provide an adequate underlying philosophy for a progressive educational agenda? Consider, again, for example, the photograph from Donaldson's book [Fig. 1] as a metaphor for constructivism. Note that the child is presented to us in a totally decontextualized fashion. There is no hint of the learning environment in which she is functioning. Neither is there any indication that she is working on a problem in the presence of peers or a teacher. All we see is a solitary learner, working on her own, to figure out the solution to a problem. Does the absence of peers suggest that constructivists view learning as a highly individualistic and mentalistic process? Is there room within constructivism for the kind of social communication and interaction that leads to collaborative meaning-making? Do children need to talk in order to develop understanding? Is any provision made for dialogue and the negotiation of meaning? What is the significance of the absence of the teacher? Could it be that in discovery-oriented modes of learning, the teacher has a minimal role to play? If this is true, how is this reconciled with the teacher's role as an authority figure in the classroom? Is it the case that power relations between teachers and students are not viewed as problematic? The picture is silent too on the historical, social, and physical contexts of

the learning processes, as well as the specific biographical influences that have shaped this child's epistemological stance. Does constructivist theorizing include consideration of how issues such as the race, class and gender backgrounds of teachers and students, and their prior learning histories, influence the kinds of meanings that are made possible in the classroom? Finally, stepping back a little, what might we conclude from the picture of a young girl puzzling over the interlocking of two pieces of wood on the cover of a book entitled Children's minds? Does this image of the solitary child struggling to understand her physical world symbolize the essence of intellectual development as a purely mental accomplishment of gaining understanding of the world? Is there provision anywhere within constructivist theory for the notion of learning as an empowering activity which enables learners to understand their social reality so that they might act to transform it?

The purpose of this paper is to ask what we want of progressive pedagogy. My thesis will be that constructivism, because of the inherent limitations of the Piagetian structuralist philosophy on which it is based, can only support a child-centered pedagogy which is, at best, problematic. If we are to develop a genuinely liberatory paradigm for education, the culture, language and power relations of schooling need to be theorized and incorporated into our models of how children develop "common knowledge" (Edwards & Mercer, 1987), and how teachers might learn to teach in a liberatory manner in which reality is viewed as problematic rather than given.

Piagetian structuralism: The roots of constructivism

One of the difficulties with the term constructivism is that it is used widely and loosely by people who wish to indicate an allegiance to the idea that learners construct their understanding. I have been guilty of this myself, having described my approach to teacher education as "constructivist" or "critical-constructivist" (e.g., O'Loughlin, 1989; 1990a) without any clear sensibility as to the implications of adopting a constructivist perspective. The reality is that constructivism is a cognitive-developmental notion that has direct roots within the structuralism that underlies Piaget's theory of intellectual development. Our examination of constructivism, therefore, must begin by addressing its roots in Piaget's theory.

Piaget's structuralism

Piaget's theory is a complex blend of biology, epistemology, philosophy and psychology. As Broughton (1981a) notes, Piaget was not a classic French Structuralist. Instead, he developed his own version of structuralism which posits logico-mathematical structures as the ultimate form of the interpretive apparatus we use to understand the objective world. Piaget's concern was with describing what he referred to as "objectivity" (Piaget, 1970), namely the process by which we gain knowledge about the world. Piaget views the entire purpose of intellectual growth as one of coming to know reality more objectively through developing increasingly decentered - and hence more objective - perceptions of reality. For Piaget "the structure of the mind is the source of our understanding of the world" (Venn & Walkerdine, p. 73). Piaget was not an innatist who believed that interpretive schemes preexist in the mind, nor did he believe that we could apprehend reality through direct experience as behaviorists do. Piaget suggested that our interpretive schemes evolve as a result of successively more complex interactions with the world. Piaget conceptualized this entire process of coming to know in biological terms since he viewed intellectual adaptation as merely a specific case of the larger process by which organisms engage in biological adaptation to the environment.

Piaget proposed that intellectual adaptation be described in terms of the dialectical balance between two processes that he labeled assimilation and accommodation. As Piaget notes, "from a biological point of view, assimilation is the integration of external elements into evolving or completed structures of an organism" (1970, p. 707). As far as possible, Piaget says, new elements are grafted onto existing structures and new ideas are understood in terms of existing understanding. However, as Broughton notes, "when the world, the object of knowledge, resists breakdown and absorption, the subject 'accommodates', meaning that its structures adapt as far as possible to make the experience assimilable, to make it easier to comprehend" (1981a, p. 261). Piaget's theory is premised on the biological assumption of self-regulation, namely that the organism constantly strives towards the reduction of conflict in order to gain equilibrium. Equilibrium is established through the dialectical interplay of assimilation and accommodation. The end result of this process of adaptation is an increasing ability to come to view knowledge objectively, a process Piaget refers to as decentering :

...the gradually emerging equilibration between assimilation and accommodation

> is the result of successive decentrations, which make it possible for the subject to take the points of view of other subjects or objects themselves. We formerly described this process merely in terms of egocentrism and socialization. But it is far more general and more fundamental to knowledge in all its forms. For cognitive progress is not only assimilation of information; it entails a systematic decentration process which is a necessary condition of objectivity itself (1970, p. 710).

As the quote suggests, Piaget was primarily interested in the ability of humans to detach themselves from reality so that they could view it from all logically possible perspectives, rather than from within their own egocentric point of view.

A number of other features of Piaget's concept of intellectual development must be noted. Piaget was not so much interested in individual human reasoning as in the general trajectory of epistemological development. As Venn and Walkerdine note: "The subject of these constructions is thus only an epistemic subject., who abstracts from experience logical schemes and discards the experiences themselves as empty shells" (1977, p. 79). Piaget focused only on the general principles of human reasoning and excluded from consideration particularities such as the social and historical context of reasoning and the autobiographical experiences of the individuals he studied. Furthermore, Piaget focused primarily on logico-mathematical reasoning, the kind of "purposive-rational, goal-directed behavior" (Broughton, 1981a, p. 270) that we normally equate with mathematical problem solving and empiricist conceptions of scientific rationality. This is no coincidence since Piaget regarded the kind of hypothetico-deductive reasoning that empirical scientists supposedly engage in as the ideal for individual rationality. Applied to children this idea is familiarly embodied in the notion of the "child as scientist" actively seeking to interrogate the physical world in order to gain clarification about objective reality. At the level of formal operations, the highest stage of reasoning in Piaget's scheme, all content is excluded and the entire reasoning process is described in terms of a mathematical formalism. The focus on scientific rationality, the interest in describing intellectual advancement in terms of increasing decentration from subjectivity and towards objectivity, and the desire to express the highest forms of reasoning in terms of mathematical formalisms all point to a model of cognitive development in which reasoning that is ahistorical, value-free and abstract is regarded as the telos of cognitive development.

From structuralism to constructivist teaching

The link between Piagetian theory and constructivist applications to pedagogy is remarkably direct for the most part. The writings of Fosnot (1989) and Sigel (1978), two leading advocates of the application of constructivism to teaching and teacher education, present a case in point. Here is how Fosnot made the connection in her course "Piaget for teachers" one semester:

> I spent approximately half the semester lecturing about Piaget's theory, believing that students couldn't begin to apply it in the classrooms until they understood it. I placed special emphasis on Piaget's notion of equilibration, explaining assimilation as an active process of making meaning out of experience, and accommodation as the changing of one's own thinking in order to strive toward equilibrium. Next, I moved on to explain developmental differences in the way children assimilate by describing the typical Piagetian tasks and the way in which logical reasoning changes from preoperational thinking to eventual formal operational structures. Finally, I defined constructivist teaching as a model that emphasizes that learners need to be actively involved, to reflect on their learning and make inferences, and to experience cognitive conflict" (p. 3).

The Piagetian influence on Fosnot's thinking is clearly evident, too, in the four foundational principles of constructivism that she enunciates in her book. The first principle is that "knowledge consists of past constructions" (p. 19). Fosnot explains that we construct our experience of the objective world by viewing it through a "logical framework" which "transforms, organizes and interprets our experiences" (p. 19). Fosnot then presents the Piagetian doctrine that these logical structures evolve through a process of self-regulation analogous to the process of biological development. Fosnot's second principle of constructivism is that "constructions come about through assimilation and accommodation" (p. 19). Fosnot says that we use assimilation as a logical framework within which to interpret new information, with accommodation coming into play to resolve contradictions as part of the larger self-regulative process. Getting to the heart of the constructivist process, Fosnot's third principle refers to learning as "an organic process of invention, rather than a mechanical process of accumulation" (p. 20). In her discussion Fosnot contrasts this active learning with traditional, passive learning to make the case for a learner-centered pedagogy. Note , however, that active learning is confined to the kind of scientific reasoning processes of particular interest to Piaget:

> A constructivist takes the position that the learner must have experience with hypothesizing and predicting, manipulating objects, posing questions, researching answers, imagining, investigating, and inventing, in order for new constructions to be developed. From this perspective, the teacher cannot insure that learners acquire knowledge just by having the teacher dispense it; a learner-centered, active instructional model is mandated. The learner must construct the knowledge; the teacher serves as creative mediator of the process" (p. 20).

Fosnot's fourth principle refers to the mechanism by which cognitive growth occurs: "Meaningful learning occurs through reflection and resolution of cognitive conflict and thus serves to negate earlier, incomplete levels of understanding" (p. 20). Fosnot points out that cognitive conflict only occurs when the learner notes a discrepancy between two contradictory schemes, and she points out that while a teacher can serve to "mediate this process", the change can only occur at the child's initiative.

Fosnot also draws upon Piaget's (1973) notion that understanding occurs through invention rather than through mere discovery of preordained answers . She says that children need to construct answers rather than be led to solutions. Her distinction between this constructive process of invention and the process of discovering known answer is, however, problematic as this quote from one of the teachers in her math-for-teachers workshop indicates:

> "I'm sure that you probably did plan for us to solve the problem with a place-value system, but it didn't feel that way. It really felt like shared discovery, that there was no answer in particular that you were looking for. In fact, I want to change the word 'discover' to the word 'invent', because discovery is the uncovering of what someone else wants you to find,. Inventions is more powerful and connotes ownership. I felt like I owned the solution" (p. 86).

Finally, venturing beyond Piaget, Fosnot equates active learning with the notion of empowerment:

> These processes all mandate far more active learners, as well as a different model of of education than the one subscribed to at present by most institutions. Rather than being powerless and dependent on the institution, learners need to be empowered to think and to learn for themselves. Thus, learning needs to be conceived of as something a learner does, not as something that is done to a learner (p. 5).
>
> With respect to pedagogical applications, Fosnot's belief is that teachers should

become developmental psychologists who can engage in the kind of clinical inquiry pioneered by Piaget:

> Rather than being told what developmental psychologists have found, they would become psychologists themselves. Rather than being told how to teach they would construct their own pedagogy (p. 137).

In her book (pp. 37-40) Fosnot makes it clear that her goal is that teachers learn the clinical interviewing and assessment skills to enable them to engage children in Piagetian style cognitive activities and to enable them to assess the children's developmental progress in terms of the kinds of developmental indicators associated with classic Piagetian tasks. With respect to teacher education, Fosnot extrapolates from this to a constructivist approach to teacher education in which teachers would become amateur Piagetian type psychologists by being taught through a similar constructivist pedagogy.

In his work Sigel reports that he is "guided by a constructivist approach similar, but not identical, to that of Piaget" (1987, p. 250). The outcome in Sigel's case is the development of a specific inquiry approach to pedagogy designed to promote cognitive advancement in students. For Sigel constructivism is embodied in the mental interpretations of external experience: "to the constructivist the individual's behavior is a function of how he organizes experiences and how he places his own imprint on these experiences" (1978, p.334). Quoting from his own earlier work on constructivism Sigel offers the following definition of constructivism:

> "Constructivism refers to that process of constructing, in effect, creating a concept which serves as a guideline against which objects or people can be gauged. During the course of interactions with objects, people, or events the individual constructs a reality of them... This mental construction then guides subsequent actions with the object or events" (Sigel & Cocking, 1977a - cited in Sigel, 1978, p. 334).

Sigel uses a synthesis of Piaget's work and Kelly's (1958) personal construct theory to argue for the necessity of considering each individual as a scientist, constantly engaged in dialectical interaction with reality, and constantly evaluating information for its congruence with current representations of reality. For Sigel the key issue is the development of mental representations of reality. He argues that to develop abstract representations we need to detach ourselves from our own reality, and to increase the accuracy and complexity of our representations we need to be confronted with

contradictions and discrepancies which induce cognitive conflict and thus force us to reevaluate our existing interpretations in light of the discrepant information.

Based on these two premises Sigel and Cocking (1977b) argue for a mode of teaching by questioning, known as distancing education, that is designed to distance students from their own perspectives and that is designed to induce cognitive conflict. Distancing is accomplished by means of a set of inquiry strategies strategies which are designed to cause a "cognitive separation between the individual and the immediate present" and which demand "active engagement" (p. 212). Cognitive conflict is induced by the introduction of discrepancies which are designed to cause the student to rethink her or his assumptions. Sigel has studied and promoted the use of distancing education in elementary and early childhood education (e.g., Sigel, 1981; 1984; 1987) and in parent-child interaction (Sigel & McGillicuddy-Delisi, 1984). Sigel's work is similar in intent to Fosnot's. Both are striving to articulate a constructivist pedagogy that is faithful to the literal doctrine of Piaget's theory and that strives to intervene to facilitate the kind of intellectual development presented as a possibility in Piaget's theory.

A different sense of the possibilities of constructivism is to be found in the books by Donaldson (1978) and Duckworth (1987). Rather than beginning with specific Piagetian structures and working to develop a pedagogy that might be faithful to these, Donaldson and Duckworth both begin by looking at the process of schooling from the child's perspective, and they use their knowledge of Piagetian theory and methodology much more reflexively as a framework within which to make sense of what they see. A primary concern for both Donaldson and Duckworth is with the issue of meaning-making and the need for teachers to understand how children go about making sense of the world. As Duckworth notes,:

> Meaning is not given to us in our encounters with the environment, but it is given by us - constructed by each of us in our own way, according to how our understanding is currently organized. As teachers we need to respect the meaning our students are giving to the events that we share. In the interests of making connections between their understanding and ours, we must adopt an insider's view: seek to understand their sense as well as help them to understand ours.

Donaldson's and Duckworth's approaches are strikingly similar in many respects. Both express grave concern about the fact that so many students turn away from the

intellectual possibilities of schooling so early in life. Both share a deep commitment to the promotion of sense-making and thoughtfulness in classrooms, and both are clear that this can only occur when students feel comfortable enough to talk in their own tentative voices in order to reach for their own tentative understandings. Both emphasize the importance of perplexity and confusion in the process of coming to new understandings, and both emphasize the slow and messy path to the construction of personal meaning. Both are clear, too, that while the teacher's role is to try to promote the kind of intellectualism that will enable students to move toward what Piaget might call abstract thinking, and what Donaldson refers to as "disembedded thought" (p. 75), this can only be done by acknowledging individual learners' frames of reference and by raising questions that cause learners to become reflective about their points of view:

> To the extent that one carries on a conversation with a child, as a way of trying to understand a child's understanding, the child's understanding increases "in the very process". The questions the interlocutor asks, in an attempt to clarify for herself what the child is thinking oblige the child to think a little further also... [for example] What do you mean? How did you do that? Why do you say that? How does that fit in with what she just said? Could you give me an example? How did you figure that? In every case these questions are primarily a way for the interlocutor to try to understand what the other is understanding. Yet, in every case, also, they engage the other's thoughts and take them a step further (Duckworth, 1987, pp. 96-7).

Implicit in both author's perspectives is a clear sense of the teacher as an inquirer into students' understandings. The idea is a Piagetian one, but it owes much greater allegiance to the fluid, open-ended clinical interview method pioneered by Piaget in his early research on children than to the kind of structured questions a teacher might ask while attempting to replicate a Piagetian conservation experiment or while attempting to promote the specific kind of cognitive growth advocated, for example, by Sigel. Furthermore, both Donaldson and Duckworth display a deep sensitivity to how affective issues such as risk-taking, fear of failure and so on impact on student learning. I use both of these texts, usually simultaneously, in my child development classes for teachers because both are effective in enabling teachers to confront in a constructive way the necessity for students to engage in their own meaning-making and in constructing their own understanding in the classroom. Both

texts provide a persuasive rationale for developmentally appropriate, child-centered pedagogy in schools, although, as we will see, this does not allow them to escape the restrictive assumptions of constructivism..

A critique of constructivism and child-centered pedagogy

What does it mean to come to know, and what role does the individual have to play in the construction of understanding? As we have seen, the view Piaget preferred was of the child as scientist busily engaged in the construction of abstract representations of the world through a conscious process of interrogating reality and comparing it with current understanding. Coming to know, for Piaget, is embodied in a progressive decentration, in which the person successively detaches from his or her own subjective perceptions so that an abstract representation of reality may be constructed. Construction, therefore, refers to the process of constructing abstract, decentered representations within the mind. As noted earlier, the telos of development, as embodied in formal operations, consists of the construction of ahistorical, content-free, representations that are universal enough to be modeled by mathematical formalisms.

Critics of Piaget's theory have taken serious exception to this notion of progressive decentration as the model of intellectual development. They argue that knowledge is socially constructed, and that we cannot talk of knowing without considering the historically and socially constituted self that engages in the process of knowing. Furthermore, they argue that knowing is a dialectical process that takes place in specific social, cultural, and historical contexts. Knowing is viewed as a process of examining current reality critically and constructing visions not only of present reality, but of other possible realities. Piagets' model, in contrast, is conservative, presenting the central problem of epistemology as coming to know reality as it is in order to adapt successfully to it. A considerable critical literature has emerged surrounding Piaget's theory, and much of this is reviewed in the five critical essays by Broughton (1981a, b, c, d, e) that appeared in Human Development. The review presented here is more selective. My goal is to explore the problematic assumptions underlying constructivism and child-centered pedagogy so as to illustrate the inherent limitations of using this philosophy as a basis for progressive pedagogy.

Critique of constructivism

A major weakness in Piaget's theory, his critics agree, is the absence of human subjectivity in the process of construction. Venn and Walkerdine summarize the problem this way:

> Crucially, however, Piaget misses out the basis of the unity in human self-transformation and self-constitution in and through the material and social world, that is to say, in historical materialism. This is an essential focus of the difference between our approach and the Piagetian one which will be further explored later. For the moment it is sufficient to explain that while the human being is a natural and social being, we regard the development of scientific knowledge and of cognition generally to be conditioned by his/her existence as a social being. Within this perspective, the history of thought is inseparable from the history of human (social) development, and cannot refer to either the individual subject alone, or the abstract epistemic subject, or, in the last instance, the biologically normed, natural subject (1977, p. 86).

The problem, as Buck-Morss (1975) and Sampson (1981) note, is that Piaget's structural model follows Kantian idealism in giving primacy to abstract mental structures and rational thought processes at the expense of the historically and socially constituted subjectivity the person brings to the reasoning process. Sampson notes that a legacy of Kantianism is that most cognitive models, including Piaget's, have tended to be subjectivist and individualistic. Subjectivism refers to the idea that in models such as Piaget's primary attention is given to the mental constructions within the individual's head. Little attention is paid to the "material interests, social practices or objective properties of the stimulus situation" (Sampson, 1981, p. 731). While Piagetians may argue that provision is made for dialectical interaction between reality and mental construction in the self-regulatory relationship between assimilation and accommodation, Broughton (1981a), cites Wozniak (1974) and others as arguing that while the relationship between assimilation and accommodation is dialectical during the sensorimotor period "the balance of the two tendencies breaks down in Piaget's accounts of post-infant development, leading to an involuntary eclipse of the accommodation pole. Piaget has promoted the 'active subject' at the expense of the action environment" (p. 273). As Buck-Morss notes, this bias toward assimilation over accommodation serves Piaget's purpose of studying the progressive decentration of

the individual from the world of objects: "Although some of Piaget's most interesting work has been done in the early stage when cognition is still tied to content, he presupposes that the most important thing is not so much what the child can do with the concrete world as, as how quickly he can do without it" (1975, p. 40). As we saw earlier, constructivists such as Donaldson and Sigel accept that the task of education is to promote "disembedded thought" (Donaldson) and to "distance" (Sigel) the child from the world of everyday experience and concrete reality.

Sampson's second concern is with the individualism that necessarily accompanies the kind of abstract formalisms advanced in Piaget's theory. According to Sampson, "the individualist approach reduces reality to the acts of the individual's constitution; objects of reality are seen as products of individual cognitive operations rather than as products of social and historical constitution" (p. 731). Venn and Walkderdine note that the absence of recognition of the socially and historically constituted nature of knowledge is no accident in Piaget's theory, but is rather a necessary outcome of a theory that posits the individual as an epistemic subject, functioning almost like a biological organism in a deterministic biological system.

The issue under discussion here is not an academic one, but is in fact an issue of profound importance for teachers: Whose interest do we serve by defining cognitive development as the ability to think about problems intellectually and rationally, "cut off from their roots in social and historical practice" (Sampson, 1981, p.733), and by treating intellectual growth purely as an individual mental exercise? Is Fosnot correct in her assertion that this kind of intellectual "activity' forms the essence of empowerment? Sampson thinks not:

> It is my contention that the cognitive perspective offers a portrait of people who are free to engage in internal mental activity - to plan, decide, wish, think, organize, reconcile, and transform conflicts and contradictions within their heads - and yet who remain relatively impotent or apparently unconcerned (in psychology's world view) about producing actual changes in their objective social world. In substituting thought for action, mental transformations for real-world transformations, cognitivism veils the objective sources and bases of social life and relegates individual potency to the inner world of mental gymnastics (p. 735).

This argument is made even more forcefully by Buck-Morss. Referring to the Piagetian process of decentration and the child's supposed increasing ability to bracket out real

objects and deal only in mental images, she says this acts to reify cognition because "now the object appears to be an object of thought rather than socially produced" (1975, p. 41). She argues that the effect of mental bracketing is to create a split between thinking and doing:

> With the attainment of object permanence, the idea of an object... becomes a substitute for the thing itself, indeed... [it] is granted greater cognitive value than the material object, and the child is capable through symbolic play of leaving reality unchanged. This is the same idealist propensity which neo-Marxists criticize in all bourgeois philosophy: placing more value on the idea than on reality, while it has been progressive in enabling the individual to imagine the totality of a complex society (as well as a society different from and better than the existing one), [it] encourages a split between thinking and doing. The mind mistakes social contradictions for logical ones, labors over the latter, while leaving reality unchanged. For Piaget the culmination is when the child can 'do' everything in his head, that is, when he can divorce theory from practice" (1975, pp. 40-41).

Thus, contrary to Fosnot's claim, Buck-Morss is arguing that Piaget's conception of active subject is potentially dis<u></u>empowering: "Abstract, formal cognitive skills may indeed increase the child's ability to adapt to present society rather than to criticize or change it" (p. 41). A crucial distinction between constructivists and critical educators such as Freire (1970/1989) is that the latter argues that abstraction is a source of mystification and oppression. Freire argues that curriculum must emerge from the generative themes of people's lives and that if education is to be empowering it must culminate in praxis. The focus on abstraction and ensuing alienation from subjective experience that is characteristic of constructivist pedagogy would appear to be the antithesis of what we expect from an empowering and liberatory approach to pedagogy.

There are other concerns too about the theoretical and methodological underpinnings of Piaget's theory. Sampson and Buck-Morss argue, for instance, that Piagetian theory, with its emphasis on logico-mathematical problem solving and abstract reasoning sanctions only one kind of knowledge, namely the technical-rational type of knowledge that serves the interests of industrialized and technological societies. By valuing only this kind of instrumental thought, and by failing to raise questions that would allow people to view these assumptions as problematic, we

implicitly affirm these values. The result, Buck-Morss says, is that rather than becoming a tool to serve people's ends, this kind of instrumental reasoning can "cause men and women to become a tool of technology" (p. 41), working to maintain reality "as it is" rather than exploring possibilities that might lead to enhanced opportunities for freedom. Finally, Buck-Morss (1975), Lawler (1975) and Riegel (1979) argue that the subjectivism and individualism of Piaget's theory and the primacy of assimilation over accommodation point to the essentially nondialectical nature of thinking in Piaget's scheme:

> "For all these reasons, Piaget's theory describes thought in its alienation from its creative, dialectical basis. It represents a prototype reflecting the goals of our higher educational system that, in turn, are reflecting the nonartistic and noncreative aspects in the intellectual history of western man.... Although Piaget's theory is founded on a dialectical basis, it fails to make the transition from the formal intellectualism of Kant to the concrete dialecticism of Hegel. Thus, his theory is not only incapable of interpreting mature thinking but also fails to give sufficient emphasis to their dialectical character and the creative features of children's cognitions" (Riegel, 1979, p. 50).

Critique of child-centered pedagogy

The National Association for the Education of Young Children (NAEYC) has developed a position statement on what constitutes developmentally appropriate education for children between ages five and eight (NAEYC, 1988). Since their statement presents the most comprehensive and up-to-date statement of the hopes of child-centered pedagogy in the United States it is worthy of close examination. Their philosophy is grounded in progressivism and child-centered pedagogy:

> The primary grades have the potential for starting the children on the course of lifelong learning. Whether schools achieve this potential for children is largely dependent on the degree to which teachers adopt principles of developmentally appropriate practice. The principles of practice described here have historical roots that include Dewey's progressive education... and the open education movement of the 1960s... Although the principles are similar in many instances to principles espoused by both these movements, this position statement does not advocate a return to practices of the past, but rather builds on previous experience and reflects the knowledge acquired in the interim (p. 68).

In the document NAEYC argues for an approach to pedagogy that emphasizes "active, experiential learning in a meaningful context" (p. 64). They argue that as children mature schooling should shift gradually from being child-centered to being content-focused:

> "The curriculum in early childhood programs is typically a balance of child-centered and content-centered curriculum. For example, good preschools present rich content in a curriculum that is almost entirely child-centered. As children progress into the primary grades, the emphasis on content gradually expands as determined by the school, the local community and the society.

NAEYC's position statement is premised on the belief that teachers should be conversant with normative patterns of development, and that they should be flexible enough to also include consideration of individual differences among children in their pedagogy.

Details of the NAEYC position statement. Throughout the document there is an emphasis on the research that underlies the recommendations and the statement is accompanied by 235 bibliographic citations to add further weight to its authority. Research on physical development, for instance, is used as a justification of the need for active learning:

> Physical activity is vital for children's cognitive growth as well. When presented with an abstract concept, children need physical actions to help them grasp the concept in much the same way that adults need vivid examples and illustrations to grasp unfamiliar concepts. But, unlike adults, primary-age children are almost totally dependent on first-hand experiences. Therefore, an important principle of practice for primary-age children is that they should be engaged in active, rather than passive, activities... For example, children should manipulate real objects and learn through hands-on, direct experiences, rather than be expected to sit and listen for extended periods of time (p. 65).

Piaget's theory is cited as the basis for the following recommendation with respect to the degree of abstraction that is permissible in instruction:

> Between 6 and 9 years of age, children begin to acquire the mental ability to think about and solve problems in their heads because they can then manipulate objects symbolically - no longer always having to touch or move them. This is a major cognitive achievement for children that extends their ability to solve

problems. While they can symbolically or mentally manipulate , it will be some time before they can mentally manipulate symbols to, for example, solve mathematical problems such as missing addends or to grasp algebra. For this reason, primary age children still need real things to think about. (p. 65-66).

Constructivism receives an explicit endorsement too:

> Young children construct their own knowledge from experience. In schools employing appropriate practices, young children are provided with many challenging opportunities to use and develop the thinking skills they bring with them and to identify and solve problems that interest them (p. 66).

Developmental findings are also used to delimit what ought not to be done:

> In addition, appropriate schools recognize that some thinking skills, such as understanding mathematical place value and "borrowing" in subtraction, are beyond the cognitive capacity of children who are developing concrete operational thinking and so do *not* introduce these skills to most children until they are 8 or 9 years of age. (p. 66).

Language development is justified because it promotes perspective-taking and reasoning:

> Children in the stage of concrete operations typically attain other skills that have important implications for schooling... Among these is the ability to take another person's point of view, which vastly expands the child's communication skills. Primary-age children can engage in interactive conversations with adults as well as with other children, and can use the power of verbal communication, including joking and teasing. Research demonstrates that engaging in conversation strengthens children's abilities to communicate, express themselves and reason. ... Research also indicates that adults can help prolong and expand children's conversations by making appropriate comments (p. 66).

The report also makes recommendations in the areas of socioemotional and moral development, and for the most part these follow the received view as represented in the work of developmental stage theorists such as Erikson and Kohlberg. The statement then goes on to address individual differences, noting that awareness of developmental patterns must be counterbalanced with sensitivity to individual differences:

> Knowledge of age-appropriate expectations is one dimension of developmentally appropriate practice, but equally important is knowledge of what

> is individually appropriate for the specific children in a classroom. Although universal and predictable sequences of human development appear to exist, a major premise of developmentally appropriate practice is that each child is unique and has an individual pattern, and timing and growth, as well as individual personality, learning style, and family background. (p. 67).

The dilemma teachers must face in juxtaposing these two competing demands is not addressed in the document.

The pedagogical recommendations that flow from this model of schooling are presented by means of a long list of contrasts between didactic and developmentally appropriate pedagogy. The following extracts from the section headed "teaching strategies" convey the essence of the recommended pedagogy:

> * The curriculum is integrated so that children's learning in all traditional subject areas occurs primarily through projects and
> learning centers that teachers plan, and that reflect children's interests and suggestions. Teachers guide children's involvement in projects and enrich the learning experience by extending children's ideas, responding to their questions, engaging them in conversation and challenging their thinking.
> * The curriculum is integrated so that learning occurs primarily through projects, learning centers and playful activities that reflect current interests of children....
> * Teachers use much of their planning time to prepare the environment so that children can learn through active involvement with each other, with adults and older children serving as informal tutors, and with materials. Many learning centers are available for children to choose from... Errors are viewed as a natural and necessary part of learning. Teachers analyze children's errors and use the information obtained to plan curriculum instruction.
> * Individual children or small groups are expected to work and play cooperatively or alone in learning centers and on projects that they usually select themselves or are guided by the teacher. Activity centers are changed frequently so children have new things to do...
> * Learning materials and activities are concrete, real and relevant to children's lives. Objects children can manipulate and experiment with, such as blocks, cards, games, woodworking tools, arts and crafts materials, and scientific equipment are readily accessible. Tables are used for children to work alone or in small groups. A variety of work places and spaces is provided and flexibly

used (pp. 69-71).

Two points are worthy of note. First, in order to brighten the halo around developmentally appropriate education, traditional education is presented as a uniformly bleak, authoritarian, punitive form of pedagogy, and as the polar opposite of developmentally appropriate education. Second, it is notable that in all of the foregoing there is virtually no mention of the purpose of education. The focus, instead, is almost exclusively on method, with content assumed to be unproblematic. The notion that curriculum needs to be built around items of interest to children is repeated often enough, but what does that mean? Do children always know what interests them, and what happens if a teacher wants to teach something educationally sound but initially uninteresting to children? The more serious question, of course, is in whose interest schooling takes place. The NAEYC statement does not address this issue directly but some insights can be gained from examining their proposals regarding curriculum. At the core of their proposal is the notion that curriculum should be integrated across disciplines. The issue of interdisciplinary integration is not addressed in its own right, however, but rather through presentation of recommendations in specific curriculum areas. First, with respect to the language arts curriculum, the following goal is expressed: "The goals of the language and literacy program are for children to expand their ability to communicate orally and through reading and writing " (p. 72). Although numerous techniques are identified for promoting a whole language and literature based approach, the issue of literacy itself is never addressed, nor is there any indication of how the "language and literacy" program is designed either to build upon or problematize students' lives and cultures. In fact, some of the program recommendations sound as conservative as those they are designed to displace:

> Subskills such as learning letters, phonics, and word recognition are taught as needed to individual children and small groups using enjoyable games and activities. Teachers use the teacher's edition of the basal reader series as a guide to plan projects and hands-on activities relevant to what is read and to structure learning situations (p. 72).

Anyone familiar with the characteristics of basal reading series (e.g., see Smith, 1986) will find the latter recommendation surprising. The same situation arises with respect to math education. Again, "the goal of the math program is to enable children to use math through exploration, discovery, and solving meaningful problems" (p. 73). Yet, once again the teacher's edition of the math textbook is recommended as a resource.

Furthermore, although there is a strong emphasis on how to teach math (i.e., use of manipulatives and interesting games), the power and purpose of math in our society is not examined, nor is it problematized. The omission is more glaring with respect to social studies. While the recommendations highlight the value of developing "social studies themes" for intense study, no mention is made of the content of social studies. The only insight that is offered is that "social studies concepts are learned through a variety of projects and playful activities involving independent research in library books excursions and interviewing visitors; discussions; the relevant use of language" (p. 73) and so on.

It is symptomatic of the acritical and apolitical nature of the recommendations that multiculturalism is addressed in a separate section at the end - literally as an appendage - rather than as an integral part of the social studies curriculum. It is ironic that while the NAEYC statement derogates traditional pedagogy for ignoring cultural differences and assuming homogeneity in the classroom , their own concept of multiculturalism is reduced to the provision of "multicultural and nonsexist activities" that will "enhance individual children's self-esteem and enrich the lives of all children with respectful appreciation of differences and similarities" (p. 74). Finally, consider the following manifesto for science education:

> Discovery science is a major part of the curriculum, building on children's natural interest in the world. Science projects are experimental and exploratory and encourage active involvement of every child. The science program takes advantage of natural phenomena such as the outdoors, and the classroom includes many plants and pets for which children provide care daily. Through science projects and field trips children learn to plan; to dictate and/or write their plans; to apply thinking skills such as hypothesizing, observing, experimenting and verifying; and many science facts related to their own experience" (p. 74).

Shades of Piaget's "child as scientist"! In this view, not only is science presented unproblematically as a rational hypothetico-deductive process, but the content of science, and the role of science and technology in society are rendered unproblematic, if not positively beneficent.

Although there are many other aspects of the NAEYC position statement deserving of critical scrutiny, enough has been presented to indicate that this pedagogical model suffers the same limitations as the parent cognitive models - especially Piaget's theory - on which it is based. Among these limitations are exclusion

of the socially and historically constituted self; an emphasis on mentalism and individualism; a focus on technical rationalism; and a devaluing of the dialectical interactions that might lead people to gain an empowered understanding of their world so that they might opt to transform it.

It is worthy of note, despite NAEYC's disclaimer, presented earlier, that their vision of schooling is remarkably similar to the movement for child-centered education that emerged in Britain in the 1960s. In her historical analysis of the development of that movement in Britain, Walkerdine (1984) points out that it's growth was intimately related to the growth of developmental psychology as a science. Developmental psychology legitimized learning and teaching "in the terms of individual cognitive development" (p. 160). Not only did the individual child become the object of study, but, as Walkerdine notes, much of the focus shifted to the study of mind, independent of larger patterns of individual development. Piaget's work was not the impetus for the child study movement, but, arriving at an opportune moment, it provided a legitimizing rationale and through stage theory and clinical observation it provided apparatuses that helped advance the agenda of scientifically based child-centered pedagogy:

> The new notion of an individual pedagogy depended absolutely on the possibility of observation and classification of normal development and the idea of spontaneous learning. It was the science of developmental psychology which provided the tools and in which the work of Piaget is particularly implicated. As I mentioned earlier his post in the movement towards naturalization of mathematical and scientific knowledges as individual capacities, developing in a quasi-spontaneous fashion given the correct environment, was a central part of that movement which permitted the curriculum to be understood as spontaneous and permitted the teaching of facts to disappear in favor of the monitoring of learning concepts (pp.178-79).

The emphasis on stages of development in the NAEYC statement; the repeated stress on play and spontaneous activity as sources of learning; the focus on engineering appropriate educational environments for natural learning; the delimitation of stages within which certain things ought to be taught or not taught; and the focus on systematic observation and recording of children's behavior all reveal the degree to which conceptions of child-centered pedagogy continue to be framed in terms of concepts from developmental psychology. An informal analysis of the theoretical thrust and citation pattern in the NAEYC statement suggests that it, too, is

heavily dependent on developmental psychology for its legitimacy. As surely as constructivism needs to be treated as problematic, the assumptions of mainstream developmental psychology are in need of critical interrogation. Contrary to the liberal image associated with the notion of autonomous, active learning, Walkerdine argues that mainstream developmental psychology, with its classificatory stage theories and its assumption of normal development, actually serves to restrict and limit the possibilities for individual freedom:

> It is perhaps the supreme irony that the concern for individual freedom and the hope of naturalized rationality that could save mankind should have provided the conditions for the production of a set of apparatuses which would aid in the production of the normalized child. It is the empirical apparatus of the stages of development which of all Piaget's work has been most utilized in education. It is precisely this, and its insertion into a framework of biologized capacities, which ensures that the child is produced as an object of the scientific and pedagogical gaze by means of the very mechanisms which were intended to produce its liberation" (1984, p. 190).

The key issue, Walkerdine argues, is to theorize pedagogy in ways that take account of human subjectivity embedded in the social and historical contexts of people's lives:

> Neither the child nor the individual can be liberated by a radical stripping away of the layers of the social. Such a model assumes a psychological subject laid bare to be re-formed in the new order. This was the aim of the liberatory pedagogy - to lay bare the psychological bones. But if social practices are central to the very formation of subjectivity the laying-bare is an impossibility. In this analysis there is no pre-existent subject to liberate (1984, p. 195).

The problem of learning in child-centered pedagogy. Does child-centered pedagogy make a significant difference in children's learning? What do children learn by "doing"? What kind of discourse occurs in a child-centered classroom, and what effect does this have on children's understanding? In their recent book, Common knowledge: The development of understanding in the classroom, Edwards and Mercer (1987) describe two studies of classroom discourse that raises serious questions about the efficacy of child-centered pedagogy. In examining their data the authors report that they "were surprised at the extent to which the relatively 'progressive' sorts of teaching that we examined were characterized by the overwhelming dominance of the teacher over all

that was done, said and understood to be correct" (p. 2). The studies were designed to examine how common knowledge or shared understanding develops in the course of interaction between teachers and students in the classroom. The authors note that Piagetian-based child-centered pedagogy is still the norm in British primary schools and all of the teachers included in this study articulated and practised a form of child-centered pedagogy that is quite consistent with the NAEYC recommendations presented earlier. For the two studies reported by Edwards and Mercer, primary teachers were observed teaching a variety of lessons to groups of 8-11 year old students over three sessions. The lessons were videotaped, and after preliminary analysis, followup interviews were conducted with the teachers to seek clarification regarding their pedagogy. Pupils were also interviewed to assess the degree to which their understanding approximated the teachers' stated instructional goals.

One of the issues addressed by Edwards and Mercer's research is the role of activity in learning. Specifically, they investigated the extent to which there is a relationship "between practical activity and principled understanding" (p. 94). The authors point out that while the relationship between activity and learning is not problematic for hands-on tasks in which one learns from experience, the relationship is likely to be much more problematic for the development of shared understanding of cultural and intellectual issues. They point out that "one of the real dangers of an emphasis on children's capacities to learn from their own activity and experience is that their understanding of things will remain at the level of specific experiences and practical procedures, while the hoped-for principled understandings are never grasped or articulated" (p. 95). In their book Edwards and Mercer present excerpts from protocols of teacher-student dialogues that occurred while students were working on various tasks (e.g., attempting to isolate the relevant variable in Piaget's pendulum problem). These protocols document students attempts at sense-making in a child-centered, active-learning environment, and they simultaneously provide a revealing glimpse of the teachers' enactments of the notion of child-centered pedagogy. Edwards and Mercer were surprised at the degree to which learning outcomes were controlled and directed by apparently well intentioned teachers who wanted to engage students in specific activities in order that they might derive certain predetermined conclusions. Just as an earlier field study by Barnes (1976) had shown, the current studies revealed that teachers played a very active role in defining and controlling the kinds of discourse that were permissible during the lessons.

Strategies employed by teachers to accomplish this included privileging certain student interpretations while marginalizing others; asking specific questions to cue students into deriving the expected insights; and introducing rules of thumb to gloss over discrepancies and enable students to make choices that would allow them to derive the necessary insights. The problem, of course, as Edwards and Mercer point out, is that in these situations the teacher is attempting to adhere "both to the pedagogic principle of e-ducare, and also to the not altogether compatible procedure of planning the activities and ideas of the lesson in advance, so that the ideas that the pupils must arrive at from their own thought and experience are actually preordained" (p.110). Edwards and Mercer present numerous examples from their response protocols indicating that many of the students seemed to have gained a very limited grasp of the underlying principles that the activities were intended to establish. Instead, many of the students treated the activities as rituals to be followed in order to please the teacher and play the game of school. Instead of striving for genuine understanding students typically made judgments and offered opinions that were in accord with what they perceived to be the teacher's expectations. The authors conclude:

> The analysis called into question the notion that the pupils were engaged in any simple process of learning by experience, finding things out for themselves, forming their own concepts through practical activity and observation. In fact, their conceptions of the nature and meaning of their discoveries were strongly governed by interpretations offered them by their teacher through a variety of communicative devices ranging from gestures and silences to the use of implication and verbal description which imposed particular interpretations on their experience (p. 125).

The primary tool which teachers used for this purpose is cued elicitation, which the authors describe as follows:

> It is a communication process of substantial intrinsic interest. Classroom questions and answers have peculiar characteristics... the teacher, who knows the answers, asks most of the questions, asks questions to which she already knows the answers, and, additionally, it appears may ask questions while simultaneously doing her best to provide the answers via an alternative channel (p. 143).

The problem with this approach to pedagogy, as the authors point out, is that the teacher imposes her own definition of understanding on the situation. Then the

students, no longer having the opportunity to construct their own explanations, play the teacher's game and try to guess the right answers. Edwards and Mercer conclude: "The freedom of pupils to introduce their own ideas was largely illusory; the teacher retained a strict control over what was said and done, what decisions were reached, and what interpretations were put upon experience" (p. 156)..

These findings suggest that, despite its commonsense appeal, the notion of learning by doing is not unproblematic. Constructivists need to inquire more deeply into the implications of presenting students with tasks in which the outcomes are known in advance: Are such tasks legitimate? How does a teacher prevent students from engaging in ritualistic activities and "playing the game of school" under these circumstances? Is it possible to learn most of the things pupils need to know through activity, and if it is, what precisely is the role of the teacher in this process? The findings from these studies and those of Barnes (1976) point to the absolute power teachers have to control the kinds of communication they permit in their classrooms, and hence the kinds of meaning-making in which their pupils will engage. Consequently, it would seem imperative for constructivists to problematize power relations between teachers and students, and to examine closely the kinds of discourse that occur during "active learning" experiences.

Edwards and Mercer conclude by arguing that the individualistic psychology at the heart of child-centered pedagogy needs too be replaced by a view of education as "situated discourse" (p. 166) in which primacy is given to culture and communication in the making of meaning.

> By looking at learning from a theoretical perspective which does not assume the overriding supremacy of action over talk, or which defines learning purely in terms of of individual cognitions, one gains new insights into the inherently social, cultural and communicative basis of human cognition and learning (p. 168).

They go on to argue that it is now time for a serious reappraisal of child-centered pedagogy:

> The British primary school teachers we have observed try in good faith to carry out their interpretation of the progressive style of education advocated by the Plowden Report. This is their educational ideology, a set of beliefs about how children's cognitive development and learning are best assisted. They have good reasons for relying upon it, because it is an educational approach based on

sensible criticisms of traditional didactic teaching methods, advocated by a high-status committee of educationists, and legitimized by the most widely accepted theory of cognitive development. We believe along with other critics (Donaldson, 1978; Walkerdine, 1984) however, that the time is ripe for a reappraisal of this ideology, which remains dominant in British primary education. This is largely because the Piagetian theory upon which it stood has not withstood recent critical attacks; it no longer justifies educationists' trust. It encourages a pedagogy which overemphasizes the individual at the expense of the social, which undervalues talk as a tool for discovery, and which discourages teachers from making explicit to children the purposes of educational activities and the criteria of success pp.169-70).

Rethinking classroom pedagogy and teacher education

Perhaps the most essential insight that can be derived form the foregoing critique is that the theory and practice of pedagogy needs to be self-reflexive if any method is to become more than a mere slogan or a prescription for technical activity in the classroom. In attempting to articulate an alternate model of pedagogy we must use caution to avoid the pitfalls of reification and prescription. The articulation of progressive pedagogy needs to take into account the problematic nature of the power relations of schooling, the discursive nature of classroom learning processes, and the dialectical and epistemological foundations of learning and teaching.

Power relations in the classroom

The failure of progressive approaches to pedagogy to treat the power relations of schooling as problematic has come in for sharp criticism in Delpit's (1986, 1988) recent critique of the kinds of progressive education represented by child-centered and developmentally appropriate pedagogy. Delpit, a Black educator who considers herself progressive, has taken serious issue with the suggestion that child-centered pedagogy is the one right way to educate all children. Echoing an earlier critique of Piaget's theory (Buck-Morss, 1975), Delpit argues that child-centered pedagogy reflects middle-class values and aspirations, and serves to perpetuate opportunity for middle-class children while serving to exclude children of color and poor children.

Delpit bases her argument on an analysis of power relations in schools. She is concerned with the "culture of power" (1988, p. 282) that exists in schools; with the kinds of codes that are needed to access power; and with how the power relations of the school are either made explicit or concealed from students. She argues that middle-class children already have access to the codes of power prior to entering school, and thus "they tend to do better in school than those from non-middle-class homes because the culture of the school is based on the culture of the upper and middle classes - of those in power" (1988, p. 283). Delpit argues that, in keeping with their liberal leanings, progressive educators strive to set up democratic and egalitarian environments in their classrooms. Delpit suggests that this can actually serve to disenfranchise poor students and students of color because it serves to mask power relations, making it even more difficult for these students to figure out how to gain access to the culture of power:

> And so does not the power still exist? Its veiled nature makes it more difficult for some children to respond appropriately, but that in no way mitigates its existence (1988, p. 289).

The studies by Edwards and Mercer (1987), discussed earlier, make it abundantly clear that despite the changed social arrangements in their classrooms, child-centered teachers possess and use an abundance of power. Delpit argues that "to act as if power does not exist is to ensure that the power status quo remains the same" (1988, p. 292). Rather than being exlcuded from power, Delpit would prefer to see all students taught how to participate in the culture of power, while simultaneously learning how to deconstruct the very power relations in which they take part:

> To summarize, I suggest that students must be taught the codes needed to participate fully in the mainstream of American life, not by being forced to attend to hollow, inane, decontextualized subskills but rather within the context of meaningful communicative endeavors; that they must be allowed the resources of the teacher's expert knowledge, while being helped to acknowledge their own "expertness" as well; and that even while students are assisted in learning the culture of power, they must also be helped to learn about the arbitrariness of those codes and about the power relationships they represent (1988, p. 296).

Delpit's vision of pedagogy is more complex than the either-or choice presented in the NAEYC statement. Her vision is of teachers who are conscious of the delicate balance between the inculcation of the means of survival in society, on the one hand,

and the problematization of the power relations of that society, on the other, so that each student might realize his or her full potential. Delpit argues that reducing educational alternatives to an either-or choice between skill-based and process-based pedagogy is an artifice created by academics "whose world view demands the creation of categorical divisions - not for the purpose of better teaching but for the goal of easier analysis" (1988, p. 296).

A major contribution of Delpit's work is that it poses in uncompromising terms the dilemma of power for progressive educators. It is all too easy for all of us, as teachers, to adopt democratic and egalitarian postures, while concealing the true nature of the extant power relations from our students, and perhaps even from ourselves (e.g., see O'Loughlin, 1990b). However, it is only when we become self-reflexive about power that we can hope to address the imbalances that are present. The challenge for progressive educators, therefore, is to theorize how to define a pedagogy that is truly empowering rather than one that merely gives the illusion of power to disenfranchised groups while actually excluding them from power.

Learning as a discursive process

If learning cannot be thought of simply as absorption of knowledge, nor simply as a process of constructing understanding through mental operations that lead to increasing abstraction, how then might we construe the process of coming to know? Many authors (e.g., Edwards & Mercer, 1987; Venn & Walkerdine, 1977; Vygotsky, 1962, 1978) argue that we need to think about learning in terms of the relation between the construction of individual subjectivity and the construction of social understanding. One factor in the learning process that needs to be understood, therefore, is the subjecitivty of individual students. Students are products of particular sociocultural environments and historical epochs, and they come to school embodying constructions of society and self based upon their own ongoing socio-cultural experiences. They enter school with emergent race, class and gender identities, and with evolving notions of authority and knowledge. Each student is continually engaged in reconstructing his or her sense of self in relation to an evolving construction of social reality. Of particular interest to teachers is the degree to which students view reality as given, and see themselves as learning to fit in with reality "as it is" versus the degree to which they view reality as socially constructed and hence view themselves

as having an opportunity to act on reality with the possibility of transforming it. By providing opportunities for students to speak and write about their own autobiographical experiences, teachers affirm students' social and cultural identities, and they also enable students to externalize the socially and historically constituted nature of their selves and thus make this available for critical reflection and possible transformation.

A second issue in need of inquiry is the process of learning itself. It follows from the foregoing critique that, as Edwards and Mercer (1987) put it, learning is a social, communicative and discursive process. Thinking of learning as discursive highlights the essential need for dialogue in the making of meaning. While actions may be helpful in promoting understanding, Vygotsky (1962, 1978) argues that talk is indispensable to the internalization of understanding. Talk is viewed as a mediating process between internal thought processes and external reality and this is what gives learning its dialectic character. Learning is also a social process in which meanings are made through a process of dialogue which yields joint understanding or common knowledge. Understanding is not something that is intrinsic to a textbook or particular learning situation, rather it is socially constructed through a process of dialogue in which students engage in intersubjective sharing to develop common understanding. As the studies by Barnes (1976) and Edwards and Mercer (1987) reveal, developing the kind of communication environment that creates an atmosphere of open inquiry and causes students to move beyond the ritual of right answers to enter the "hypothetical mode" (Barnes, 1976) and explore other possibilities is not something that occurs easily or that we can take for granted just because students appear to be happlily engaged in conversation or "active learning."

Finally, coming to know is essentially an epistemological problem, having to do with the epistemological assumptions or "ways of knowing" that students acquire. Lyons (1990) argues that the kind of learning that occurs is a function of the joint intersection of teachers' and students' ways of knowing. Lyons suggests that the epistemological dimensions of teachers' thoughts include their conceptions of themselves as knowers - embodying their historically and culturally constituted subjectivity and their ethical concept of their mission as teachers; their assessment of their students' epistemological stances and the resulting expectations that they form about student learning; and their conceptions of the nature of the disciplinary knowledge they have to teach, and the way in which they believe it ought to be taught.

In addition, Edwards and Mercer (1987) note, teachers are frequently engaged in weighing the merits of transmitting knowledge and covering material superficially versus engaging students in in-depth inquiry in fewer topics. Lyons argues that the kind of understanding students end up with is a product of the interaction between these multiple epistemological systems. Lyons concludes:

> In a unique process, the teacher joins the students in encountering a body of data and in interpreting it, a co-joint activity constructing meaning and potentially new knowledge. These tasks involve special challenges that concern how to examine and approach knowledge, a view of one's discipline, an assessment of students, and interactions with students, who, in turn, have unique views of knowledge and ways of knowing (1990, p. 172).

In conclusion, a self-reflexive model of learning needs to take account of the discursive characteristics of the learning process, including the subjectivity and epistemological stances of teachers and students, and the nature of the particular dialogical and communicative activities in which they engage in the process of developing understanding. In addition as the work of Delpit reminds us, the learning that occurs needs to be examined in terms of the larger social purpose of schooling for a particular community, and particularly in relation to the relative participation of that community in the culture of power. Finally, an indispensable consideration is the need to theorize the relationship between schooling and opportunities for personal and social transformation, perhaps much as Freire (1970/1989) has done, so that schooling engages people with their reality so that they might act to transform it.

Implications for teacher education

One of the most striking features of the NAEYC statement is the vision of teachers it contains. The choice between child-centered pedagogy and didactic education is presented as an either-or choice between two opposing methodologies. The assumption appears to be that teaching is governed by ideology, and that to be child-centered a teacher must subscribe to constructivist ideology. A second assumption appears to be that if one subscribes to constructivist ideology, the practice of child-centered education is unproblematic and follows naturally. If this characterization is true, then the challenge of teacher education can be reduced to replacing the ideology in student teachers' heads with a more progressive ideology and practice of teaching.

There is considerable evidence, however, to suggest that the relationship between teachers' beliefs and practices is not as simple as this. We noted earlier Delpit's (1988) argument that while these simple dichotomies are convenient intellectual fictions, in practice teachers must combine elements of both strategies as they struggle to deal with the everyday realities of schooling. Riegel (1979) and Billig et al. (1988), for example, both argue that much of everyday thinking is dialectical (Riegel) or dilemmatic (Billig et al.) in nature. Rather than having the characteristics of a cohesive, unified belief system, much of people's thinking is taken up with grappling with contradictions and working out compromises:

> Ideology is not seen as a complete, unified system of beliefs which tells the individual how to react, feel and think. Instead, ideology, and indeed common sense, are seen to comprise contrary themes. Without contrary themes, individuals could neither puzzle over their social worlds nor experience dilemmas. And without this, so much thought would be impossible (Billig et al., 1988, p. 2).

The case studies presented by Lyons (1990), for example, illustrate how, in the course of their everyday teaching, teachers struggle with ethical and epistemological dilemmas to which there is no easy resolution. Lyons summarizes the nature of the dilemmas the teachers in her study experienced as follows: "These practical conflicts involve the self, usually include the teacher's relationship with students, and are considered ongoing or recurring. They demand deliberation, attention to detail, and new kinds of creative resolutions, ones that attend to all elements and people involved (p. 168). At a minimum, then, in educating teachers about pedagogy we must take into account the ability of teachers to think for themselves and to adapt instruction to local circumstances rather than to blindly follow a given ideology, whether progressive or not.

At the same time the specter of expedient adaptation to local circumstances is troublesome to progressive educators. Is it expedient, for example, for a teacher who believes in whole language to use basal readers if that is the norm in her school or school district? Ought a child-centered teacher give in to parents, administrators or others who demand that she adopt a more didactic teaching style and a skills-oriented curriculum? Can a humanitarian and democratic teacher accede to demands from school administrators to implement assertive discipline in her classroom? Can these issues be resolved by making pragmatic compromises? What is a teacher to do if the

choice she is faced with truly violates her belief system? As Berlak and Berlak (1981) and Ginsburg (1988) point out in their discussion, questions such as these highlight the fundamental tension in society between education as a source of social reproduction, serving to reproduce social relations as they are, and education as a vehicle of transformation which enables people "to act individually and collectively to expose, challenge and transform unequal and contradictory class, gender and race relations" (Ginsburg, 1988, p. 17). As attractive as this latter formulation is, however, it, too may present us with deceptively simple choices. Consider how complex the debate has become, for example, since Delpit (1986, 1988) raised the issue of the necessity of teaching basic skills to poor children and children of color to ensure that they can succeed "in the white man's world." Do those of us who are in "the culture of power" have the right to speak for those who are excluded from power? Is it ethically and morally appropriate for us to tell member of disenfranchised groups what is good for them? Who knows what is best for them? Are we morally justified in reproducing the status quo (e.g., preparing students to fit it to society) if that is what they think they want, or do we have an ethical obligation to problematize societal structures so that our students might ultimately become more free? Why do so many progressives feel uncomfortable when Delpit raises questions such as these? In confronting these dilemmas must we make an either-or choice or is compromise legitimate?

This, then is the stuff of which dilemmas are composed. Teaching is an extraordinarily contradictory process for those of us who espouse progressive principles and a belief in the role of schooling in preserving democracy. The contradictions come, in the first instance, from the power relations of schooling, as discussed earlier: Can a teacher be truly democratic in the classroom,? If not, is the pretence of egalitarianism more debilitating for the powerless than naked assertion of power? If teaching is not value-free, how do we avoid being impositional on our students when our values and their's conflict? How are we to reconcile the conflicting impulses between schooling as reproduction versus schooling as transformation? There are no simple answers to these questions. Posing them serves to underline the need for any progressive theory of pedagogy to be self-reflexive about the inherently contradictory nature of pedaoggy. It also serves to highlight the fact that teaching is neither a value-free nor a merely technical task.We do a great injustice to teachers by assuming that if we can equip them with a single ideology they will be able to become efffective agents of progressive reform in schools. We owe it to our teachers to gain a

deeper understanding of the role of ideology and contradiction in pedagogy so that we might begin to enable our teachers to view the social and political relations of pedagogy as problematic so that they too may begin to ask these questions and to provide answers for themselves.

Conclusion

I would like to return again to the words of Delpit because they offer a sobering reminder of the responsibility we have to work together to formulate a genuinely liberatory approach to pedagogy for the betterment of all our children:

> But both sides do need to be able to listen, and I contend that it is those with the most power, those in the majority, who must take the greater responsibility for initiating the process... To do so takes a very special kind of listening that requires not only open eyes and open ears, but open hearts and open minds. We do not really see through our eyes or hear through our ears, but through our beliefs. To put our beliefs on hold is to cease to exist as ourselves for a moment - and that is not easy. It is painful as well, because it means turning yourself inside out, giving up your own sense of who you are, and being willing to see yourself in the unflattering light of another's angry gaze. It is not easy, but it is the only way to learn what it might feel like to be someone else and the only way to start dialogue. ...We must keep the perspective that people are expert on their own lives. There are certainly aspects of the outside world of which they may not be aware, but they can be the only authentic chroniclers of their own experience. We must not be too quick to deny their interpretations, or accuse them of "false consciousness." ...And finally, we must learn to be vulnerable enough to allow our world to turn upside down in order to allow the realities of others to edge themselves on our consciousness" (1988, p. 297).

Figure 1: The title page of Children's minds by Margaret Donaldson

"One of the most powerful, most wisely balanced and best informed books on the development of the child's mind to have appeared in twenty years. Its implications for education are enormous."
—JEROME BRUNER

Children's Minds

MARGARET DONALDSON

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